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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,948	04/14/2000	LEONID BERESNEV	2345/103	7349

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EXAMINER	
WANG, GEORGE Y	
ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/423,948	BERESNEV ET AL.	
	Examiner	Art Unit	
	George Y. Wang	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on September 7, 2004. These drawings are accepted by Examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 6-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizumi (U.S. Patent No. 4,611,916) in view of De Lang (U.S. Patent No. 3,635,552).

4. Regarding claims 6-8, Yoshizumi discloses a tunable interferometer (fig. 1) for measuring an optical surface having a light source (fig. 1, ref. 1), a reference surface reflecting the first interference beam (col. 1, lines 38-58), a test object (fig. 1, ref. 7) reflecting a second interference beam, a beam splitter where both beams strike, a polarizer and two $\lambda/4$ retardation plates (fig. 1, ref. 4, 5, 23) that linearly polarizes (col. 3, lines 14-15) the first and second interference beam before the test object and reference and before the photodetectors with polarizations states that differ from each other

However, Yoshizumi fails to specifically disclose a rotatable linear analyzer positioned at the output of the interferometer having a variable polarization state and capable of tuning the interferometer as a function of the polarized beams.

De Lang discloses an optical interferometer with a rotatable linear analyzer (fig. 1, ref. 10) positioned at the output of the interferometer having a variable polarization state and capable of tuning the interferometer as a function of the polarized beams.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned at the output of the interferometer, a rotatable linear analyzer (abstract) having a variable polarization state and capable of tuning the interferometer as a function of the polarized beams since one would motivated to reduce time variance that usually results from generation of phase interference patterns

(col. 1, lines 67-75). Furthermore, a rotatable linear analyzer would reduce the number of adjustments, for example of brightness patterns, which have to take successfully in time (col. 1, lines 71-75).

5. As to claim 10, Yoshizumi and De Lang disclose a tunable interferometer as recited above. However, neither reference specifically teaches an analyzer that is physically separate from the interferometer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an analyzer that is physically separate from the interferometer since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske, 86 USPQ 70.* Furthermore, one of ordinary skill in the art would be motivated by cost efficiency since having an analyzer physically separate from the interferometer does not require additional installation costs. Also, the reduction of an integrated analyzer would also facilitate the use and transportation of the interferometer be reducing its weight and size.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizumi and DeLang in view of Sharp et al. (U.S. Patent No. 5,627,666, from hereinafter "Sharp").

Yoshizumi when modified by DeLang discloses a tunable interferometer as recited above. However, the references fail to specifically teach an analyzer having an electrically tunable liquid-crystal element with linear polarizer.

Sharp discloses an optical interferometer with phase modulator having an analyzer with an electrically tunable liquid-crystal element with linear polarizer (fig. 1, ref. 40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an analyzer with an electrically tunable liquid-crystal element with linear polarizer since one would be motivated by increased tuning range (col. 2, lines 35-46). Because liquid cells have optic axes, which are rotatable upon application of an electric field, the cells provide discrete switching between several rotatable orientations, even in opposite directions (col. 2, lines 35-46), permitting a higher level of reliability and flexibility.

Response to Arguments

7. Applicant's arguments filed 06 January 2003 have been fully considered but they are not persuasive.

Applicant argues correctly that the Yoshizumi reference fails to teach a rotatable linear analyzer positioned at the output of the interferometer. However, the DeLang reference, when used in combination with the Yoshizumi reference, makes up for this deficiency. But according to Applicant, the reference are not combinable because the Yoshizumi reference allegedly "teaches away" and such a combination involves "different techniques, different systems and different elements."

In response to applicant's main argument that the Yoshizumi reference and the DeLang reference are not combinable, Examiner notes that the intended use of an

apparatus does not qualify as a patentable limitation. *Ex parte Masham*, 1 USPQ2d 1647 (1987). Applicant argues that the main reason that the references could not be combined is because the test object of the present invention does not "move." However, Examiner notes that nowhere in the claimed language of the independent claim is this limitation found. Thus, Examiner asserts that even though the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Furthermore, DeLang clearly teaches an analyzer (fig. 1, ref. 10; see rejection above) and provides more than sufficient motivation to positioned a rotatable linear analyzer (abstract) having a variable polarization state and capable of tuning the interferometer as a function of the polarized beams at the output of the interferometer in order to reduce time variance and the number of adjustments (see above rejection; col. 1, lines 67-75).

With regard to the Sharp reference, it is also clear that there is more than sufficient motivation to have used an analyzer with an electrically tunable liquid-crystal element with linear polarizer since one would be motivated by increased tuning range (col. 2, lines 35-46). Because liquid cells have optic axes, which are rotatable upon application of an electric field, the cells provide discrete switching between several

rotatable orientations, even in opposite directions (col. 2, lines 35-46), permitting a higher level of reliability and flexibility (see above rejection).

Therefore, Examiner holds to the validity of the references and maintains rejection.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw
December 17, 2004

TARIFUR R. CHOWDHURY
PRIMARY EXAMINER